

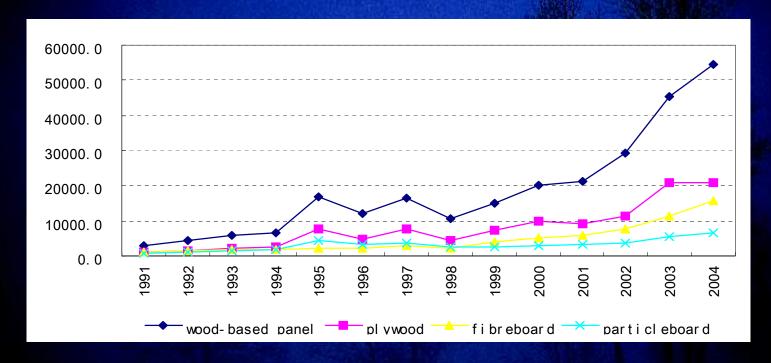
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WBP Production

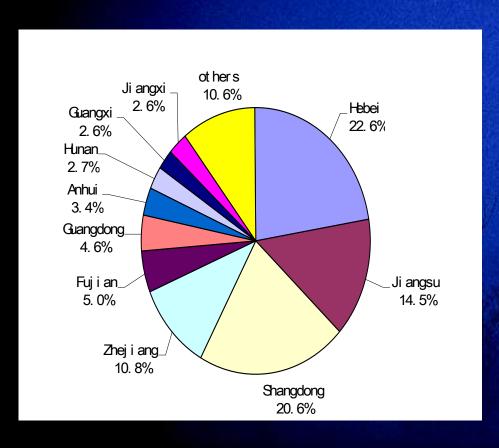
Production of WBP in China, 1991-2004 (1000 m³)



- ➤ During 1996 through 2004, the production increased by 24%/a (i.e. 2.88 million m³/a), totalling 55.5 million m³ in 2004.
- ---- National economic development: construction industry and residential consumption
- ---- Change of material promote WBP development
- ---- Enlarge of WBP application fields

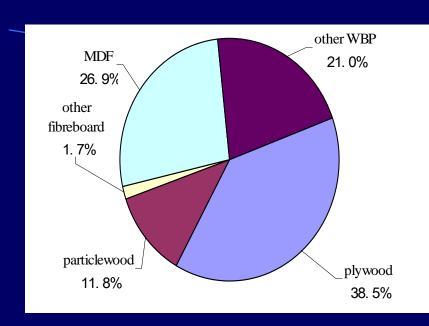
China was the largest WBP producer in the world in 2004.

Distribution of Wood-based Panel (WBP) Industry in 2003



- Most of WBP factories locate in East and South China, where economy develops well with sufficient funds and wide markets.
- Hebei, Shangdong, Jiangsu and Zhejiang are the four major WBP provinces, covering 68.5% of the total WBP production.
- With the economical structure adjustment and West Development program at present, markets of East and South of China will be strengthened, the west of China will be devoted major efforts for developing

Structure of WBP Products in China 2004



Total WBP production amounts to 55464.9 (1000 m³)

Plywood:

➤ China was the largest plywood producer in the world in 2004

----- raw materials

----- Labor force

----- Quality

Fibreboard:

- ➤ China was the largest MDF producer in the world in 2004
- ➤ HDF production has rapid developed with the development of flooring market and interior decoration.

Particleboard:

- ➤ Recently, Its market develops rapidly.
- In the future, particleboard and OSB will develop rapidly. In 2004, Daya, Furen and Asia Chuangjian companies have build Particleboard processing lines, its manufacture capacity 200 thousand m3/a.

WBP Prices

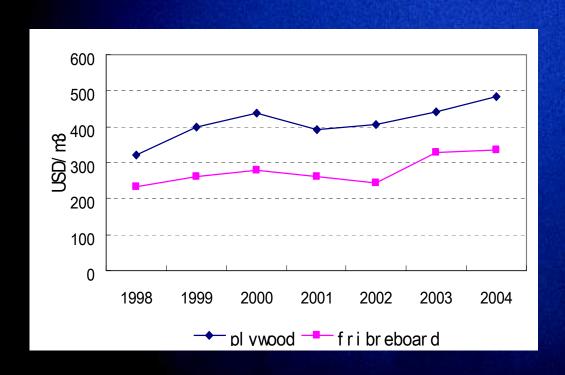
Nationwide Average Sale Price

(RMB/cum)

Year	The	rice	
	Plywood	MDF	Particleboard
2001	1031	1164	1134
2002	1845	1173	939
2003	1955	1103	883
2004	1655	1274	1043

WBP Prices

The Average Price for Imported WBP in China 1998-2004



US\$/CUM

The long-time trend of WBP price is increasing, but it may fluctuate during some time.

- Impact of environment protection
- The currency of USD is weakening on foreign exchanges.
- Oil price in the international market is increasing recently.

WBP Trade

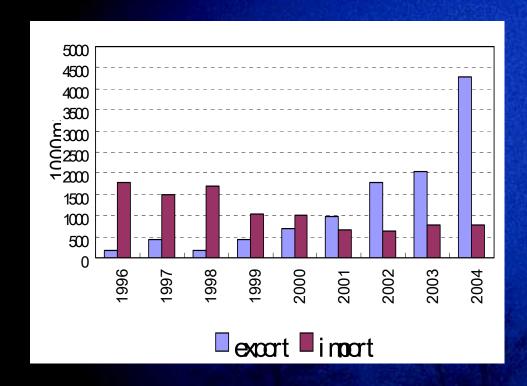
China imported WBP with a total volume of about 2.1 million m³, i.e. USD 0.67 billion in 2002.

WBP Import and Export in China 1998-2002 (1000 m³)

Year	Particleboard		Plywood		Fiberboard (incl. MDF)	
	export	import	Export	import	export	import
1996	10.5	107.6	176.8	1775.1	56.1	340.1
1997	16.9	147.9	437.7	1488.4	37.0	462.8
1998	11.0	156.3	176.9	1690.6	19.8	572.4
1999	16.9	248.1	422.5	1042.4	18.6	794.9
2000	26.3	343.8	687.0	1001.8	35.3	1014.5
2001	25.0	447.6	965.4	650.9	26.8	1070.2
2002	51.2	589.8	1792.9	636.1	56.4	876.3

- Important WBP suppliers were Indonesia, the USA, Malaysia and Russia in 2002.
- The important provinces of WBP import in China are Jiangsu, Zhejiang, Shanghai and Guangdong.
- Main Countries Importing WBP from China in 2002 were the USA, Thailand and Malaysia.
- Plywood was major product for export and fiberboard was major product for import.

Plywood Trade



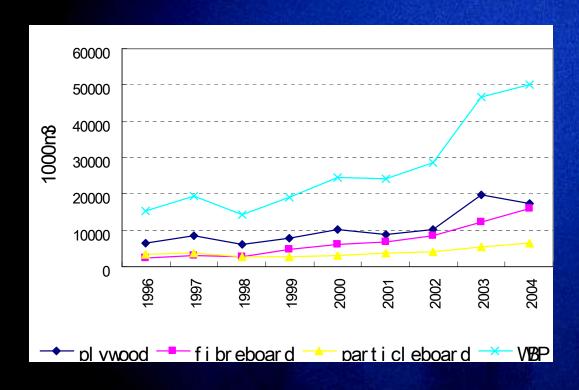
The destinations are mainly the Middle East, South Korean, South Asia, USA, Europe and Japan.

China was a big import country of plywood before 2000.

Focus on:

- Lack of raw materials
- EU took legal proceedings against Chinese goods
- Forest certification of forest product exported to Europe.
- Checked by the standard of formaldehyde content

WBP Consumption



China will witness a sustained, stable growth in the consumption of WBP.

- * With the overall implementation of NFPP, the supply of domestic big-diameter log will continue to reduce.
- **♦ The annual consumption per capita of WBP in 2000 is 0.019 m³, only 59% of the average world level, or 0.032 m³.(FAO)**
- ❖ China's demand and supply gap of industrial timber will be 60-70 million m³ in 2005, and will be further up to 140-150 million m³ in 2015.

Application of WBP

Application situation of WBP in different industries in 2000

Application rate of WBP (%)				
Construction industry*	Furniture industry	Communication	Packing industry	others
50.1	41.3	3	2.2	3.4
11.8	78.2	0.9	5.4	3.7
3.9	85.1	1.8	2.5	6.7
19.4	65.6	0	0	15
30.4	59.6	2.0	2.8	5.2
	Construction industry* 50.1 11.8 3.9 19.4	Construction industry* Furniture industry 50.1 41.3 11.8 78.2 3.9 85.1 19.4 65.6	Construction industry* Furniture industry Communication industry 50.1 41.3 3 11.8 78.2 0.9 3.9 85.1 1.8 19.4 65.6 0	Construction industry* Furniture industry Communication industry Packing industry 50.1 41.3 3 2.2 11.8 78.2 0.9 5.4 3.9 85.1 1.8 2.5 19.4 65.6 0 0

^{*}About 24.72% used in construction decoration (including door, floor and interior decoration)

- **❖ WBP** is mainly used in furniture and construction industries. The total of the two covers 84.3% 0f the WBP production.
- **❖** In the world, WBP used in construction industry is 40%~50%, furniture industry 30%, others 20%~30%.

Major Tree Species for WBP Processing

Туре	Raw Materials	
	Imported Materials	The main species were tropical timber, including Ocumi, Lauan and Mahogany.
	Domestic Materials	The main species include Manchurian Ash, Tuan Linden and fast-growing popular.
Fiberboard	Imported Materials	A part from the waste materials that was imported for plywood making.
and Particleboard	Domestic Materials	Poor quality timber, small diameter log and fuelwood, and the tree species were multifarious

Fast-growing tree species, such as poplar and eucalypt, have become the main raw materials for WBP.

Major factors limiting the development of WBP industry

Supply of raw materials

- Development of timber forest base
- Implementation of timber saving and substitution
- Using of Nonwood Based panels(such as bamboo, agricultural residues)

Enlarge of application fields

- Variety is simple and the application fields is narrow
- Different promising WBP products in the market.
- Import some types of panel with high quality and special function.

Improvement of product quality

- Development of timber forest base
- The quality of domestic machines
- Check with computerized devices
- National standards on WBP quality

Export and import trade

- Implementation of zero tariff on WBP import
- The import quota is canceled
- The methods of trade are simplistic.

Environment Protection

Eligible rate of product is low, but toxicity remain is high.

Auxiliary services

- The processing equipment is behindhand.
- The structure of WBP products is not resonable in China.
- The management level of WBP industry is low

Prospect of WBP Industry

With the development of domestic construction market, house fitment and furniture industry, the demands for WBP panel will increase.

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(foam ?)
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----- In term of housing level and GDP
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----- In term of housing level and Engel coefficient

----- In term of housing level and housing demand

- Impoving timber utilization rate
- "Two raw materials and two markets"
- Build a well-off society in an all-round way

